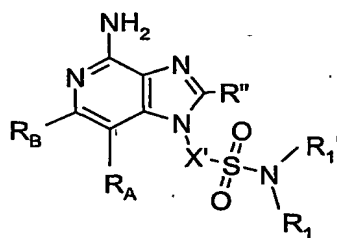


WHAT IS CLAIMED IS:

1. A compound of the formula (I):



(I)

wherein:

X' is selected from the group consisting of -CH(R₉)-, -CH(R₉)-alkylene, and -CH(R₉)-alkenylene-; wherein the alkylene and alkenylene are optionally interrupted with one or more -O- groups;

R₁ and R₁' are independently selected from the group consisting of:

hydrogen,

alkyl,

alkenyl,

aryl,

arylalkylenyl,

heteroaryl,

heteroarylalkylenyl,

heterocyclyl,

heterocyclylalkylenyl, and

alkyl, alkenyl, aryl, arylalkylenyl, heteroaryl, heteroarylalkylenyl,

heterocyclyl, or heterocyclylalkylenyl, substituted by one or more substituents selected from the group consisting of:

hydroxy,

alkyl,

haloalkyl,

hydroxyalkyl,

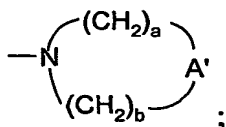
alkoxy,

haloalkoxy,

halogen,

cyano,
nitro,
arylsulfonyl,
alkylsulfonyl, and
-N(R₉)₂,

or R_1 and R_1' can join together to form a ring of the formula:



A' is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, -N(R₄)-, and -N(Q-R₄)-;

a and b are independently integers from 1 to 6 with the proviso that $a + b$ is ≤ 7 ;

Q is selected from the group consisting of a bond, -C(R₆)-, -C(R₆)-C(R₆)-, -S(O)₂-, -C(R₆)-N(R₃)-W-, -S(O)₂-N(R₃)-, -C(R₆)-O-, and -C(R₆)-N(OR₉)-;

W is selected from the group consisting of a bond, -C(O)-, and -S(O)₂-;

R_4 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl, wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkylenyloxy, heteroaryl, heteroaryloxy, heteroarylalkylenyloxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkylenyloxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

R₆ is selected from the group consisting of =O and =S;

R₈ is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R₉ is selected from the group consisting of hydrogen and alkyl;

R'' is hydrogen or a non-interfering substituent;

R_A and R_B are independently selected from the group consisting of:

hydrogen,
halogen,
alkyl,
alkenyl,
alkoxy,
alkylthio, and
-N(R₉)₂;

or R_A and R_B taken together form either a fused aryl ring that is unsubstituted or substituted by one or more R_a groups, or a fused 5 to 7 membered saturated ring that is unsubstituted or substituted by one or more R_c groups;

or R_A and R_B taken together form a fused heteroaryl or 5 to 7 membered saturated ring, containing one heteroatom selected from the group consisting of N and S, wherein the heteroaryl ring is unsubstituted or substituted by one or more R_b groups, and the 5 to 7 membered saturated ring is unsubstituted or substituted by one or more R_c groups;

R_a is selected from the group consisting of:

fluoro,
alkyl,
haloalkyl,
alkoxy, and
-N(R₉)₂;

R_b is selected from the group consisting of:

halogen,
hydroxy,
alkyl,
alkenyl,
haloalkyl,
alkoxy, and
-N(R₉)₂; and

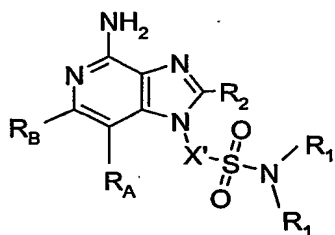
R_c is selected from the group consisting of:

halogen,
hydroxy,
alkyl,

alkenyl,
haloalkyl,
alkoxy,
alkylthio, and
-N(R₉)₂;

or a pharmaceutically acceptable salt thereof.

2. A compound of the formula (Ia):



(Ia)

wherein:

X' is selected from the group consisting of -CH(R₉)-, -CH(R₉)-alkylene, and -CH(R₉)-alkenylene-; wherein the alkylene and alkenylene are optionally interrupted with one or more -O- groups;

R₁ and R₁' are independently selected from the group consisting of:

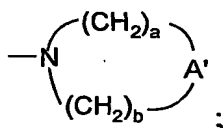
hydrogen,
alkyl,
alkenyl,
aryl,
arylalkylenyl,
heteroaryl,
heteroarylalkylenyl,
heterocyclyl,
heterocyclylalkylenyl, and

alkyl, alkenyl, aryl, arylalkylenyl, heteroaryl, heteroarylalkylenyl, heterocyclyl, or heterocyclylalkylenyl, substituted by one or more substituents selected from the group consisting of:

hydroxy,

alkyl,
haloalkyl,
hydroxyalkyl,
alkoxy,
haloalkoxy,
halogen,
cyano,
nitro,
arylsulfonyl,
alkylsulfonyl, and
-N(R₉)₂.

or R_1 and R_1' can join together to form a ring of the formula:



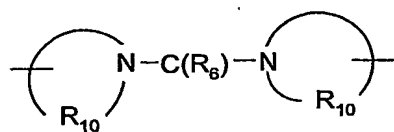
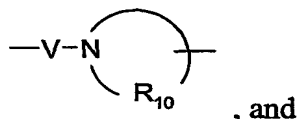
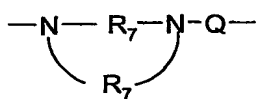
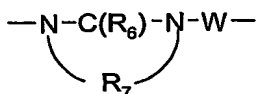
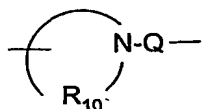
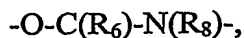
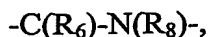
R₂ is selected from the group consisting of:

-R₄,
-X-R₄,
-X-Y-R₄, and
-X-R₅;

X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene, wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted or terminated with arylene, heteroarylene, or heterocyclylene, and optionally interrupted by one or more -O- groups;

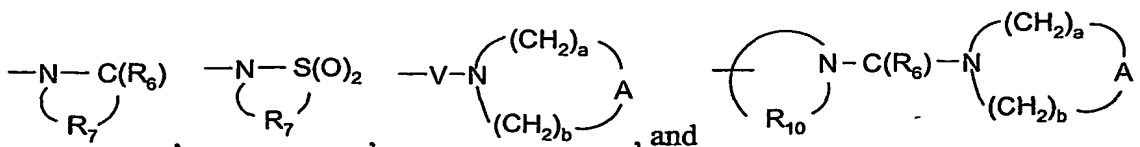
Y is selected from the group consisting of:

- O-,
- S(O)₀₋₂-,
- S(O)₂-N(R₈)-,
- C(R₆)-,
- C(R₆)-O-,
- O-C(R₆)-,
- O-C(O)-O-,



10 R_4 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl, wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups
 15 can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkylenyloxy, heteroaryl, heteroaryloxy, heteroarylalkylenyloxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkylenyloxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl,
 20 oxo;

R_5 is selected from the group consisting of:



R_6 is selected from the group consisting of =O and =S;

R_7 is C_{2-7} alkylene;

R_8 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

5 R_9 is selected from the group consisting of hydrogen and alkyl;

R_{10} is C_{3-8} alkylene;

A is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, and -N(R_4)-;

10 A' is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, -N(R_4)-, and -N(Q- R_4)-;

Q is selected from the group consisting of a bond, -C(R_6)-, -C(R_6)-C(R_6)-, -S(O)₂-, -C(R_6)-N(R_8)-W-, -S(O)₂-N(R_8)-, -C(R_6)-O-, and -C(R_6)-N(OR₉)-;

V is selected from the group consisting of -C(R_6)-, -O-C(R_6)-, -N(R_8)-C(R_6)-, and -S(O)₂-;

15 W is selected from the group consisting of a bond, -C(O)-, and -S(O)₂-;

a and b are independently integers from 1 to 6 with the proviso that $a + b \leq 7$;

R_A and R_B are independently selected from the group consisting of:

hydrogen,

halogen,

20 alkyl,

alkenyl,

alkoxy,

alkylthio, and

-N(R_9)₂;

25 or R_A and R_B taken together form either a fused aryl ring that is unsubstituted or substituted by one or more R_a groups, or a fused 5 to 7 membered saturated ring that is unsubstituted or substituted by one or more R_c groups;

or R_A and R_B taken together form a fused heteroaryl or 5 to 7 membered saturated ring, containing one heteroatom selected from the group consisting of N and S, wherein
30 the heteroaryl ring is unsubstituted or substituted by one or more R_b groups, and the 5 to 7 membered saturated ring is unsubstituted or substituted by one or more R_c groups;

R_a is selected from the group consisting of:

fluoro,
alkyl,
haloalkyl,
alkoxy, and
-N(R₉)₂;

R_b is selected from the group consisting of:

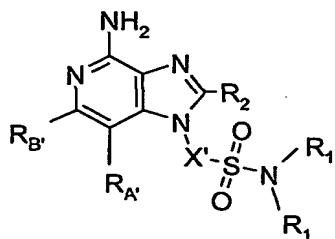
halogen,
hydroxy,
alkyl,
alkenyl,
haloalkyl,
alkoxy, and
-N(R₉)₂; and

R_c is selected from the group consisting of:

halogen,
hydroxy,
alkyl,
alkenyl,
haloalkyl,
alkoxy,
alkylthio, and
-N(R₉)₂;

or a pharmaceutically acceptable salt thereof.

3. A compound of the formula (Ib):



Ib

wherein:

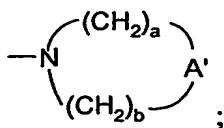
X' is selected from the group consisting of -CH(R₉)-, -CH(R₉)-alkylene, and -CH(R₉)-alkenylene-; wherein the alkylene and alkenylene are optionally interrupted with one or more -O- groups;

R_1 and R_1' are independently selected from the group consisting of:

5 hydrogen,
alkyl,
alkenyl,
aryl,
arylalkylenyl,
10 heteroaryl,
heteroarylalkylenyl,
heterocyclyl,
heterocyclylalkylenyl, and
alkyl, alkenyl, aryl, arylalkylenyl, heteroaryl, heteroarylalkylenyl,
15 heterocyclyl, or heterocyclylalkylenyl, substituted by one or more substituents
selected from the group consisting of:

hydroxy,
alkyl,
haloalkyl,
hydroxyalkyl,
alkoxy,
haloalkoxy,
halogen,
cyano,
nitro,
arylsulfonyl,
alkylsulfonyl, and
-N(R₉)₂,

or R_1 and R_1' can join together to form a ring of the formula:



R₂ is selected from the group consisting of:

-R₄,

-X-R₄,

-X-Y-R₄, and

-X- R₅;

X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene, wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted or terminated with arylene, heteroarylene, or heterocyclylene, and optionally interrupted by one or more -O- groups;

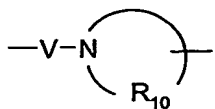
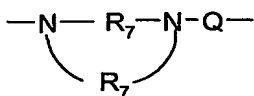
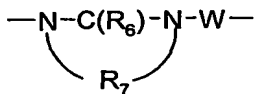
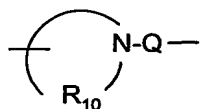
Y is selected from the group consisting of:

-O-

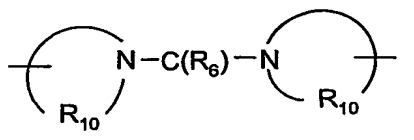
-S(O)₀₋₂₋,

$$-\text{S}(\text{O})_2-\text{N}(\text{R}_8)-,$$
$$-\text{C}(\text{R}_6)-,$$
$$-\text{C}(\text{R}_6)-\text{O}-,$$
$$-\text{O}-\text{C}(\text{R}_6)-,$$
$$-O-C(O)-O-$$

-N(R₈)-Q-

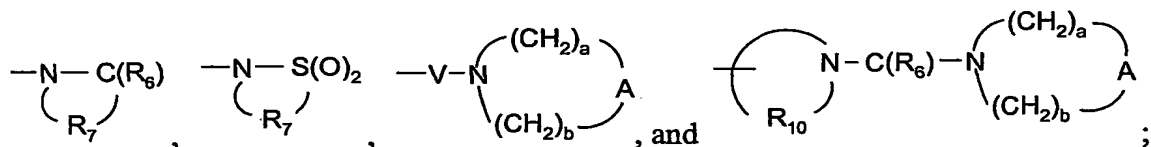
$$-\text{C}(\text{R}_6)-\text{N}(\text{R}_8)-,$$
$$-\text{O}-\text{C}(\text{R}_6)-\text{N}(\text{R}_8)-,$$
$$-\text{C}(\text{R}_6)-\text{N}(\text{OR}_9)-,$$


, and



R_4 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl, wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkylenyloxy, heteroaryl, heteroaryloxy, heteroarylalkylenyloxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkylenyloxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

R_5 is selected from the group consisting of:



R_6 is selected from the group consisting of =O and =S;

R_7 is C_{2-7} alkylene;

R_8 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R_9 is selected from the group consisting of hydrogen and alkyl;

R_{10} is C_{3-8} alkylene;

A is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, and -N(R₄)-

A' is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, -N(R₄)-, and -N(Q-R₄)-

Q is selected from the group consisting of a bond, -C(R₆)-, -C(R₆)-C(R₆)-, -S(O)₂-, -C(R₆)-N(R₈)-W-, -S(O)₂-N(R₈)-, -C(R₆)-O-, and -C(R₆)-N(OR₉)-

V is selected from the group consisting of -C(R₆)-, -O-C(R₆)-, -N(R₈)-C(R₆)-, and -S(O)₂-;

W is selected from the group consisting of a bond, $-C(O)-$, and $-S(O)_2-$;
 a and b are independently integers from 1 to 6 with the proviso that $a + b \leq 7$;

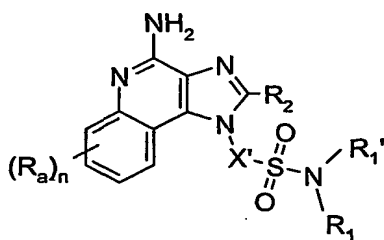
and

R_A and R_B are independently selected from the group consisting of:

hydrogen,
 halogen,
 alkyl,
 alkenyl,
 alkoxy,
 alkylthio, and
 $-N(R_9)_2$;

or a pharmaceutically acceptable salt thereof.

4. A compound of the formula (II):



(II)

wherein:

X' is selected from the group consisting of $-CH(R_9)-$, $-CH(R_9)$ -alkylene, and $-CH(R_9)$ -alkenylene-; wherein the alkylene and alkenylene are optionally interrupted with one or more $-O-$ groups;

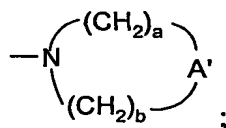
R_1 and R_1' are independently selected from the group consisting of:

hydrogen,
 alkyl,
 alkenyl,
 aryl,
 arylalkylenyl,
 heteroaryl,
 heteroarylalkylenyl,

heterocyclyl,
heterocyclylalkylenyl, and
alkyl, alkenyl, aryl, arylalkylenyl, heteroaryl, heteroarylalkylenyl,
heterocyclyl, or heterocyclylalkylenyl, substituted by one or more substituents
selected from the group consisting of:

hydroxy,
alkyl,
haloalkyl,
hydroxyalkyl,
alkoxy,
haloalkoxy,
halogen,
cyano,
nitro,
arylsulfonyl,
alkylsulfonyl, and
-N(R₉)₂,

or R_1 and R_1' can join together to form a ring of the formula:



R_2 is selected from the group consisting of:

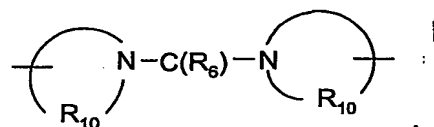
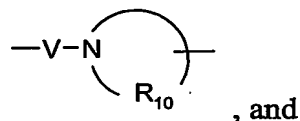
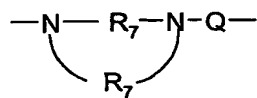
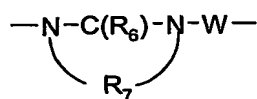
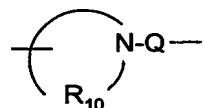
- R₄,
- X-R₄,
- X-Y-R₄, and
- X-R₅;

X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene, wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted or terminated with arylene, heteroarylene, or heterocyclylene, and optionally interrupted by one or more -O- groups;

Y is selected from the group consisting of:

-O-

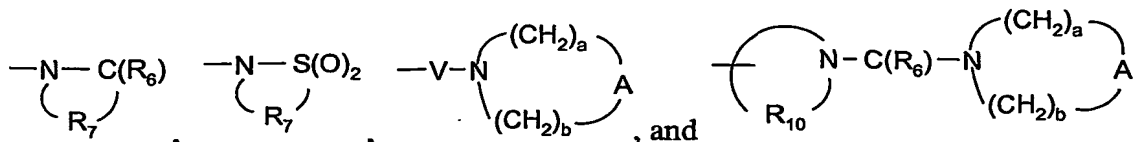
$-S(O)_{0-2}-$,
 $-S(O)_2-N(R_8)-$,
 $-C(R_6)-$,
 $-C(R_6)-O-$,
 $-O-C(R_6)-$,
 $-O-C(O)-O-$,
 $-N(R_8)-Q-$,
 $-C(R_6)-N(R_8)-$,
 $-O-C(R_6)-N(R_8)-$,
 $-C(R_6)-N(OR_9)-$,



R_4 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl, wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkylenyloxy, heteroaryl, heteroaryloxy, heteroarylalkylenyloxy, heterocyclyl, amino, alkylamino, dialkylamino,

(dialkylamino)alkylenyloxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

R_5 is selected from the group consisting of:



R₆ is selected from the group consisting of =O and =S;

R₇ is C₂₋₇ alkylene;

R₈ is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R₉ is selected from the group consisting of hydrogen and alkyl;

R₁₀ is C₃₋₈ alkylene;

A is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, and -N(R₄)-;

A' is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)_{0.2}-, -N(R₄)-, and -N(Q-R₄)-;

Q is selected from the group consisting of a bond, -C(R₆)-, -C(R₆)-C(R₆)-, -S(O)₂-, -C(R₆)-N(R₈)-W-, -S(O)₂-N(R₈)-, -C(R₆)-O-, and -C(R₆)-N(OR₉)-;

V is selected from the group consisting of -C(R₆)-, -O-C(R₆)-, -N(R₈)-C(R₆)-, and -S(O)₂-;

W is selected from the group consisting of a bond, -C(O)-, and -S(O)₂-;

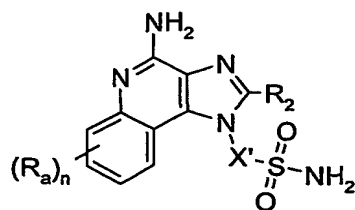
a and b are independently integers from 1 to 6 with the proviso that $a + b$ is ≤ 7 ;

R_a is selected from the group consisting of fluoro, alkyl, haloalkyl, alkoxy, and -N(R₉)₂; and

n is 0 to 4;

or a pharmaceutically acceptable salt thereof.

5. A compound of the formula (IIa):



(IIa)

wherein:

X' is selected from the group consisting of -CH(R₉)-, -CH(R₉)-alkylene, and
 5 -CH(R₉)-alkenylene-; wherein the alkylene and alkenylene are optionally interrupted with
 one or more -O- groups;

R₂ is selected from the group consisting of:

-R₄,

-X-R₄,

10 -X-Y-R₄, and

-X-R₅;

X is selected from the group consisting of alkylene, alkenylene, alkynylene,
 arylene, heteroarylene, and heterocyclylene, wherein the alkylene, alkenylene, and
 alkynylene groups can be optionally interrupted or terminated with arylene, heteroarylene,
 15 or heterocyclylene, and optionally interrupted by one or more -O- groups;

Y is selected from the group consisting of:

-O-,

-S(O)₀₋₂-,

-S(O)₂-N(R₈)-,

20 -C(R₆)-,

-C(R₆)-O-,

-O-C(R₆)-,

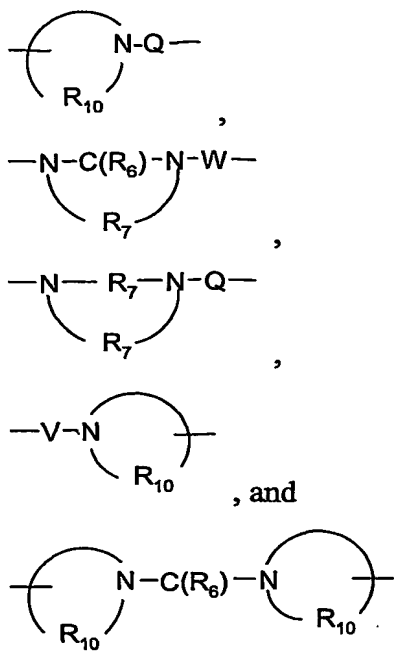
-O-C(O)-O-,

-N(R₈)-Q-,

25 -C(R₆)-N(R₈)-,

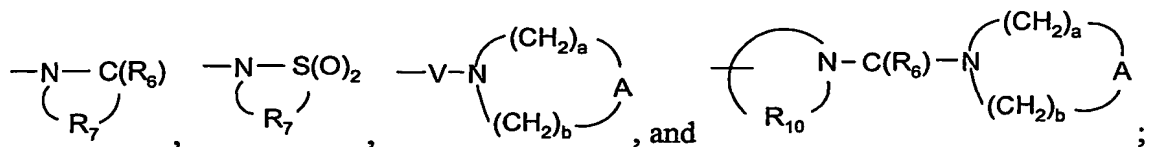
-O-C(R₆)-N(R₈)-,

-C(R₆)-N(OR₉)-,



R_4 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl, wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkylenyloxy, heteroaryl, heteroaryloxy, heteroarylalkylenyloxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkylenyloxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

R_5 is selected from the group consisting of:



R_6 is selected from the group consisting of $=\text{O}$ and $=\text{S}$;

R_7 is C_{2-7} alkylene;

R_8 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R_9 is selected from the group consisting of hydrogen and alkyl;

R_{10} is C_{3-8} alkylene;

A is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, and -N(R_4)-;

5 Q is selected from the group consisting of a bond, -C(R_6)-, -C(R_6)-C(R_6)-, -S(O)₂-, -C(R_6)-N(R_8)-W-, -S(O)₂-N(R_8)-, -C(R_6)-O-, and -C(R_6)-N(OR₉)-;

V is selected from the group consisting of -C(R_6)-, -O-C(R_6)-, -N(R_8)-C(R_6)-, and -S(O)₂-;

W is selected from the group consisting of a bond, -C(O)-, and -S(O)₂-;

10 a and b are independently integers from 1 to 6 with the proviso that $a + b \leq 7$;

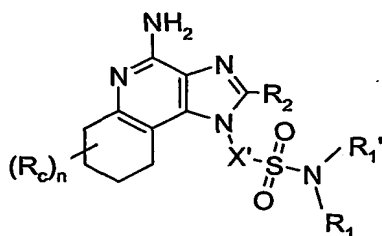
R_a is selected from the group consisting of fluoro, alkyl, haloalkyl, alkoxy, and -N(R_9)₂; and

n is 0 to 4;

or a pharmaceutically acceptable salt thereof.

15

6. A compound of the formula (III):



(III)

wherein:

20 X' is selected from the group consisting of -CH(R_9)-, -CH(R_9)-alkylene, and -CH(R_9)-alkenylene-; wherein the alkylene and alkenylene are optionally interrupted with one or more -O- groups;

R_1 and $R_{1'}$ are independently selected from the group consisting of:

hydrogen,

25 alkyl,

alkenyl,

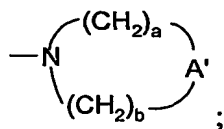
aryl,

arylalkylenyl,

heteroaryl,
heteroarylalkylenyl,
heterocyclyl,
heterocyclylalkylenyl, and
alkyl, alkenyl, aryl, arylalkylenyl, heteroaryl, heteroarylalkylenyl,
heterocyclyl, or heterocyclylalkylenyl, substituted by one or more substituents
selected from the group consisting of:

hydroxy,
alkyl,
haloalkyl,
hydroxyalkyl,
alkoxy,
haloalkoxy,
halogen,
cyano,
nitro,
arylsulfonyl,
alkylsulfonyl, and
-N(R₉)₂,

or R_1 and R_1' can join together to form a ring of the formula:



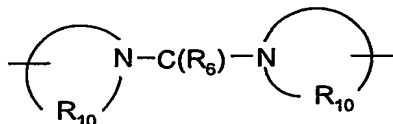
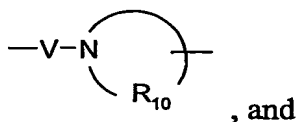
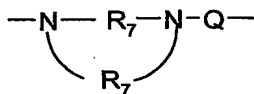
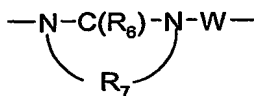
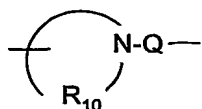
R₂ is selected from the group consisting of:

-R₄,
-X-R₄,
-X-Y-R₄, and
-X-R₅;

X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene, wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted or terminated with arylene, heteroarylene, or heterocyclylene, and optionally interrupted by one or more -O- groups;

Y is selected from the group consisting of:

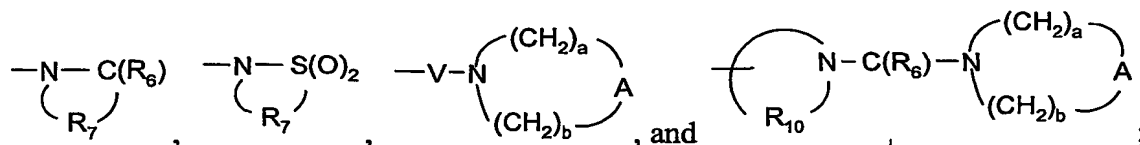
-O-,
 -S(O)₀₋₂-,
 -S(O)₂-N(R₈)-,
 -C(R₆)-,
 -C(R₆)-O-,
 -O-C(R₆)-,
 -O-C(O)-O-,
 -N(R₈)-Q-,
 -C(R₆)-N(R₈)-,
 -O-C(R₆)-N(R₈)-,
 -C(R₆)-N(OR₉)-,



R₄ is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl, wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen,

nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkylenyloxy, heteroaryl, heteroaryloxy, heteroarylalkylenyloxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkylenyloxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

5 R_5 is selected from the group consisting of:



R_6 is selected from the group consisting of =O and =S;

R_7 is C₂₋₇ alkylene;

10 R_8 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R_9 is selected from the group consisting of hydrogen and alkyl;

R_{10} is C₃₋₈ alkylene;

A is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, and -N(R₄)-;

15 A' is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, -N(R₄)-, and -N(Q-R₄)-;

Q is selected from the group consisting of a bond, -C(R₆)-, -C(R₆)-C(R₆)-, -S(O)₂-, -C(R₆)-N(R₈)-W-, -S(O)₂-N(R₈)-, -C(R₆)-O-, and -C(R₆)-N(OR₉)-;

20 V is selected from the group consisting of -C(R₆)-, -O-C(R₆)-, -N(R₈)-C(R₆)-, and -S(O)₂-;

W is selected from the group consisting of a bond, -C(O)-, and -S(O)₂-;

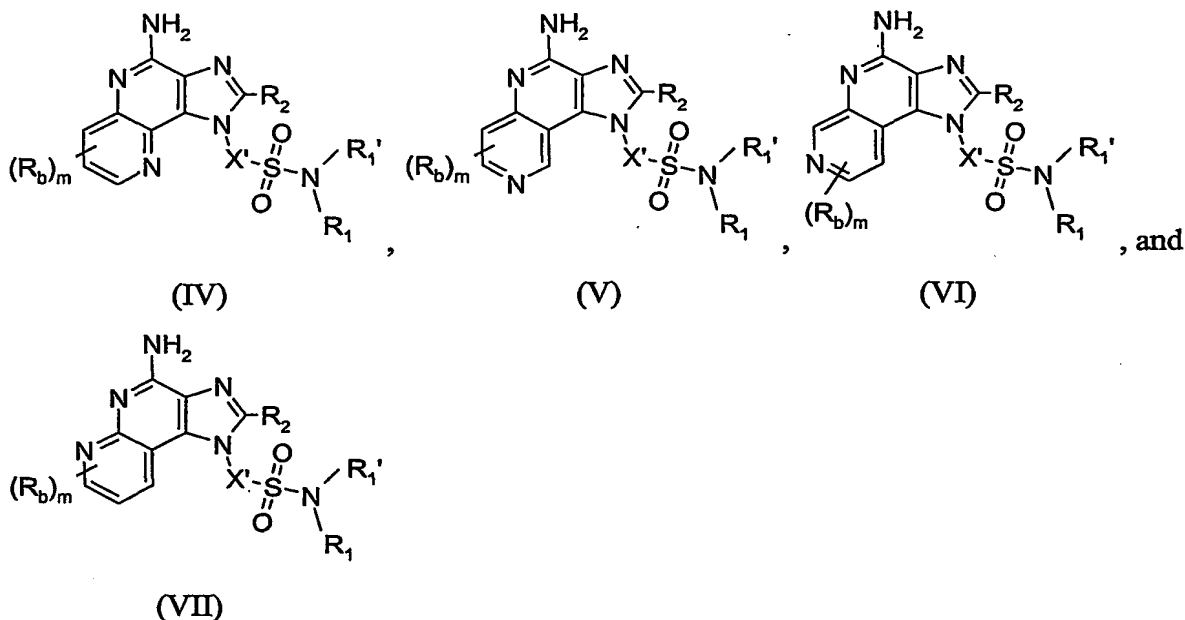
a and b are independently integers from 1 to 6 with the proviso that a + b is ≤ 7;

R_c is selected from the group consisting of halogen, hydroxy, alkyl, alkenyl, haloalkyl, alkoxy, alkylthio, and -N(R₉)₂; and

25 n is 0 to 4;

or a pharmaceutically acceptable salt thereof.

7. A compound selected from the group consisting of formulas (IV, V, VI, and VII):



wherein:

X' is selected from the group consisting of -CH(R₉)-, -CH(R₉)-alkylene, and -CH(R₉)-alkenylene-; wherein the alkylene and alkenylene are optionally interrupted with one or more -O- groups;

R₁ and R₁' are independently selected from the group consisting of:

hydrogen,

alkyl,

alkenyl,

aryl,

arylalkylenyl,

heteroaryl,

heteroarylalkylenyl,

heterocyclyl,

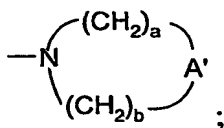
heterocyclylalkylenyl, and

alkyl, alkenyl, aryl, arylalkylenyl, heteroaryl, heteroarylalkylenyl, heterocyclyl, or heterocyclylalkylenyl, substituted by one or more substituents selected from the group consisting of:

hydroxy,

alkyl,
haloalkyl,
hydroxyalkyl,
alkoxy,
haloalkoxy,
halogen,
cyano,
nitro,
arylsulfonyl,
alkylsulfonyl, and
-N(R₉)₂,

or R_1 and R_1' can join together to form a ring of the formula:



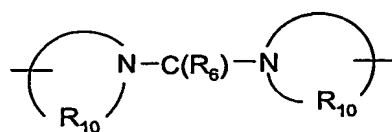
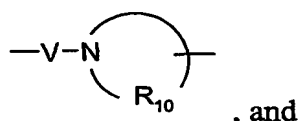
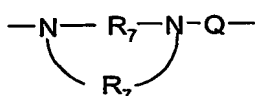
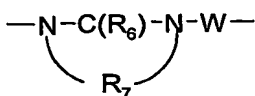
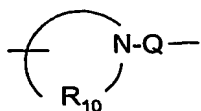
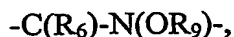
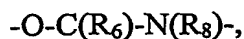
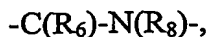
R_2 is selected from the group consisting of:

-R₄,
-X-R₄,
-X-Y-R₄, and
-X-R₅;

X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene, wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted or terminated with arylene, heteroarylene, or heterocyclylene, and optionally interrupted by one or more -O- groups;

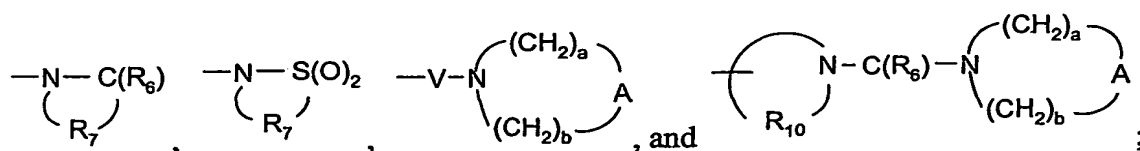
Y is selected from the group consisting of:

-O-,
-S(O)₀₋₂-,
-S(O)₂-N(R₈)-,
-C(R₆)-,
-C(R₆)-O-,
-O-C(R₆)-,
-O-C(O)-O-,



R_4 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl, wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkylenyloxy, heteroaryl, heteroaryloxy, heteroarylalkylenyloxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkylenyloxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

R_5 is selected from the group consisting of:



R_6 is selected from the group consisting of =O and =S;

R_7 is C_{2-7} alkylene;

R_8 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

5 R_9 is selected from the group consisting of hydrogen and alkyl;

R_{10} is C_{3-8} alkylene;

A is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, and -N(R₄)-

10 A' is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, -N(R₄)-, and -N(Q-R₄)-

Q is selected from the group consisting of a bond, -C(R₆)-, -C(R₆)-C(R₆)-, -S(O)₂-, -C(R₆)-N(R₈)-W-, -S(O)₂-N(R₈)-, -C(R₆)-O-, and -C(R₆)-N(OR₉)-

V is selected from the group consisting of -C(R₆)-, -O-C(R₆)-, -N(R₈)-C(R₆)-, and -S(O)₂-

15 W is selected from the group consisting of a bond, -C(O)-, and -S(O)₂-;

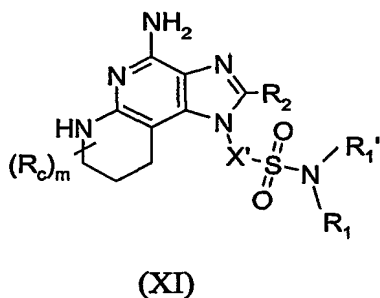
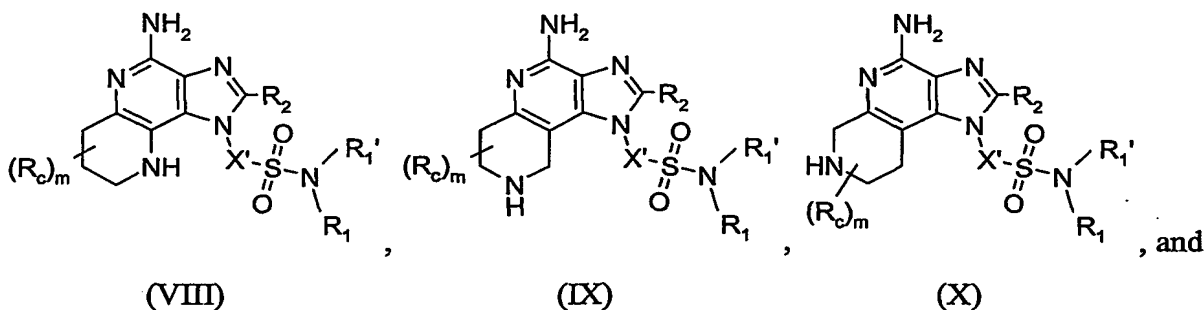
a and b are independently integers from 1 to 6 with the proviso that $a + b \leq 7$;

R_b is selected from the group consisting of halogen, hydroxy, alkyl, alkenyl, haloalkyl, alkoxy, and -N(R₉)₂; and

m is 0 to 3;

20 or a pharmaceutically acceptable salt thereof.

8. A compound selected from the group consisting of formulas (VIII, IX, X, and XI):



5 wherein:

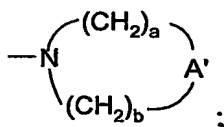
X' is selected from the group consisting of -CH(R₉)-, -CH(R₉)-alkylene, and -CH(R₉)-alkenylene-; wherein the alkylene and alkenylene are optionally interrupted with one or more -O- groups;

R₁ and R₁' are independently selected from the group consisting of:

- 10 hydrogen,
alkyl,
alkenyl,
aryl,
arylalkylenyl,
15 heteroaryl,
heteroarylalkylenyl,
heterocyclyl,
heterocyclylalkylenyl, and
alkyl, alkenyl, aryl, arylalkylenyl, heteroaryl, heteroarylalkylenyl,
20 heterocyclyl, or heterocyclylalkylenyl, substituted by one or more substituents
selected from the group consisting of:
hydroxy,
alkyl,
haloalkyl,

hydroxyalkyl,
alkoxy,
haloalkoxy,
halogen,
cyano,
nitro,
arylsulfonyl,
alkylsulfonyl, and
-N(R₉)₂.

or R_1 and R_1' can join together to form a ring of the formula:



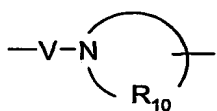
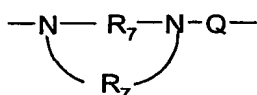
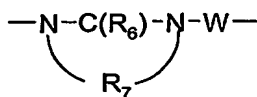
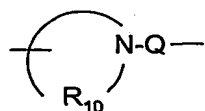
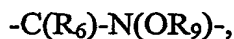
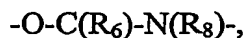
R_2 is selected from the group consisting of:

-R₄,
-X-R₄,
-X-Y-R₄, and
-X-R₅;

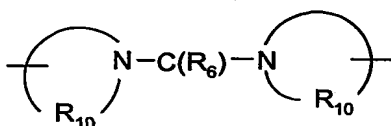
X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene, wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted or terminated with arylene, heteroarylene, or heterocyclylene, and optionally interrupted by one or more -O- groups;

Y is selected from the group consisting of:

- O-,
- S(O)_{0.2-},
- S(O)₂-N(R₈)-,
- C(R₆)-,
- C(R₆)-O-,
- O-C(R₆)-,
- O-C(O)-O-,
- N(R₈)-Q-,
- C(R₆)-N(R₈)-,



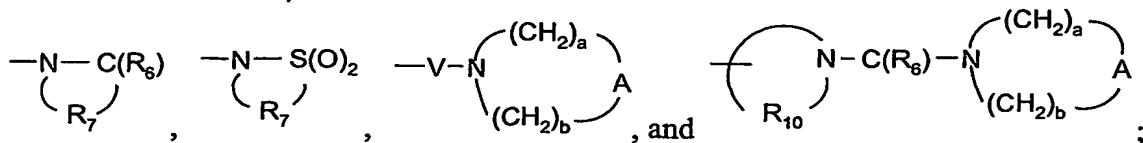
, and



;

R_4 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl, wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkylenyloxy, heteroaryl, heteroaryloxy, heteroarylalkylenyloxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkylenyloxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

R_5 is selected from the group consisting of:



R_6 is selected from the group consisting of =O and =S;

R_7 is C₂₋₇ alkylene;

R_8 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R_9 is selected from the group consisting of hydrogen and alkyl;

R_{10} is C_{3-8} alkylene;

5 A is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, and -N(R_4)-;

 A' is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, -N(R_4)-, and -N(Q- R_4)-;

10 Q is selected from the group consisting of a bond, -C(R_6)-, -C(R_6)-C(R_6)-, -S(O)₂-, -C(R_6)-N(R_8)-W-, -S(O)₂-N(R_8)-, -C(R_6)-O-, and -C(R_6)-N(OR₉)-;

 V is selected from the group consisting of -C(R_6)-, -O-C(R_6)-, -N(R_8)-C(R_6)-, and -S(O)₂-;

 W is selected from the group consisting of a bond, -C(O)-, and -S(O)₂-;

 a and b are independently integers from 1 to 6 with the proviso that $a + b \leq 7$;

15 R_c is selected from the group consisting of halogen, hydroxy, alkyl, alkenyl, haloalkyl, alkoxy, alkylthio, and -N(R_9)₂; and

 m is 0 to 3;

 or a pharmaceutically acceptable salt thereof.

20 9. The compound or salt of claim 1 or claim 2 wherein R_A and R_B are independently selected from the group consisting of hydrogen and C_{1-4} alkyl.

10. The compound or salt of claim 3 wherein R_A and R_B are independently selected from the group consisting of hydrogen and C_{1-4} alkyl.

25

11. The compound or salt of claim 7 or claim 8 wherein m is 0.

12. The compound or salt of any one of claims 4, 5, or 6 wherein n is 0.

30 13. The compound or salt of any one of claims 1 through 4, 6 through 11, or claim 12 as dependent on claim 4 or claim 6, wherein R_1 and R_1' are independently selected from the group consisting of:

hydrogen,
alkyl,
alkenyl,
aryl,
5 arylalkylenyl,
heteroaryl,
heteroarylalkylenyl,
heterocyclyl,
heterocyclylalkylenyl, and

10 alkyl, alkenyl, aryl, arylalkylenyl, heteroaryl, heteroarylalkylenyl, heterocyclyl, or
heterocyclylalkylenyl, substituted by one or more substituents selected from the
group consisting of:

hydroxy,
alkyl,
15 haloalkyl,
hydroxyalkyl,
alkoxy,
haloalkoxy,
halogen,
20 cyano,
nitro,
arylsulfonyl,
alkylsulfonyl, and
-N(R₉)₂.

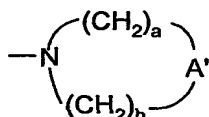
25
14. The compound or salt of claim 13 wherein R₁' is hydrogen or alkyl, and R₁ is
selected from the group consisting of hydrogen, alkyl, aryl, substituted aryl, arylalkylenyl,
substituted arylalkylenyl, and heteroaryl.

30 15. The compound or salt of claim 13 wherein R₁' is hydrogen or methyl, and R₁ is
selected from the group consisting of hydrogen, methyl, ethyl, propyl, butyl, cyclohexyl,

phenyl, 4-methoxyphenyl, benzyl, 4-methoxybenzyl, 2-pyridyl, 3-pyridyl, 4-chlorophenyl, and 4-fluorophenyl.

16. The compound or salt of claim 15 wherein R_1 and R_1' are both hydrogen.

17. The compound or salt of any one of claims 1 through 4, 6 through 11, or claim 12 as dependent on claim 4 or claim 6, wherein R_1 and R_1' join together to form a ring of the formula:



wherein A' is selected from the group consisting of $-O-$, $-CH_2-$, $-N(R_4)-$, and $-N(Q-R_4)-$.

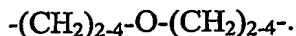
18. The compound or salt of claim 17 wherein R_1 and R_1' join together to form a morpholine ring.

19. The compound or salt of any one of claims 2 through 8; claim 9 as dependent on claim 2; claims 10 through 12; or claims 13 through 18 as dependent on claims 2 through 4, claims 6 through 11, or claim 12 as dependent on claim 4 or claim 6; wherein R_2 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, hydroxyalkylenyl, and $-X-R_4$ and $-X-Y-R_4$, wherein X is C_{1-2} alkyl; Y is $-S(O)_{0-2}-$, $-S(O)_2-N(R_8)-$, $-C(R_6)-$, $-C(R_6)-O-$, $-O-C(R_6)-$, $-O-C(O)-O-$, $-N(R_8)-Q-$, $-C(R_6)-N(R_8)-$, $-O-C(R_6)-N(R_8)-$, or $-C(R_6)-N(OR_9)-$; and R_4 is alkyl.

20. The compound or salt of claim 19 wherein R_2 is selected from the group consisting of hydrogen, C_{1-4} alkyl, C_{1-4} alkyl- $O-C_{1-4}$ alkylenyl, and $HO-C_{1-3}$ alkylenyl.

21. The compound or salt of claim 20 wherein R_2 is selected from the group consisting of hydrogen, methyl, ethyl, *n*-propyl, *n*-butyl, hydroxymethyl, 2-hydroxyethyl, ethoxymethyl, and 2-methoxyethyl.

22. The compound or salt of any one of claims 1 through 21 wherein X' is



23. The compound or salt of any one of claims 1 through 21 wherein X' is $-(\text{CH}_2)_{1-7}-$.

24. The compound or salt of any one of claims 1 through 21 wherein X' is $-(\text{CH}_2)-\text{C}(\text{CH}_3)_2-$.

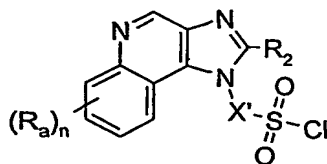
25. A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of any one of claims 1 through 24 in combination with a pharmaceutically acceptable carrier.

26. A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound or salt of any one of claims 1 through 24 or a pharmaceutical composition of claim 25 to the animal.

27. A method of treating a viral disease in an animal in need thereof comprising administering a therapeutically effective amount of a compound or salt of any one of claims 1 through 24 or a pharmaceutical composition of claim 25 to the animal.

28. A method of treating a neoplastic disease in an animal in need thereof comprising administering a therapeutically effective amount of a compound or salt of any one of claims 1 through 24 or a pharmaceutical composition of claim 25 to the animal.

29. A compound of the formula (XII):



(XII)

wherein:

X' is selected from the group consisting of $-\text{CH}(\text{R}_9)-$, $-\text{CH}(\text{R}_9)-\text{alkylene}$, and

-CH(R₉)-alkenylene-; wherein the alkylene and alkenylene are optionally interrupted with one or more -O- groups;

R_2 is selected from the group consisting of:

-R₄,

-X-R₄,

-X-Y-R₄, and

-X- R₅;

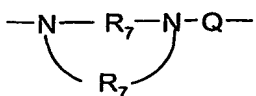
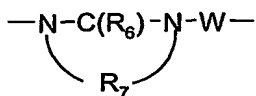
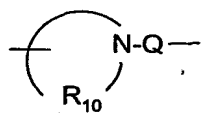
X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene, wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted or terminated with arylene, heteroarylene, or heterocyclylene, and optionally interrupted by one or more -O- groups;

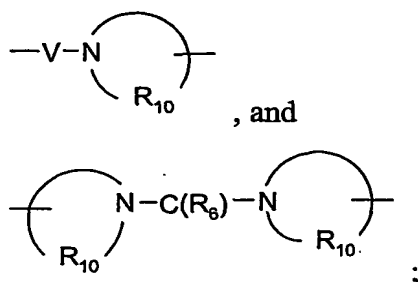
Y is selected from the group consisting of:

-0-

$$-\text{S}(\text{O})_{0-2}-,$$
$$-\text{S}(\text{O})_2-\text{N}(\text{R}_8)-,$$

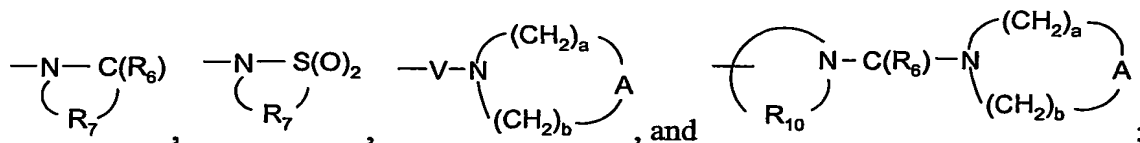
-C(R₆)-,

$$-\text{C}(\text{R}_6)-\text{O}-,$$
$$-\text{O}-\text{C}(\text{R}_6)-,$$
$$-\text{O}-\text{C}(\text{O})-\text{O}-,$$
$$-\text{N}(\text{R}_8)-\text{Q}-,$$
$$-\text{C}(\text{R}_6)-\text{N}(\text{R}_8)-,$$
$$-\text{O}-\text{C}(\text{R}_6)-\text{N}(\text{R}_8)-,$$
$$-\text{C}(\text{R}_6)-\text{N}(\text{OR}_9)-,$$




R_4 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl, wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkylenyloxy, heteroaryl, heteroaryloxy, heteroarylalkylenyloxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkylenyloxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

R_5 is selected from the group consisting of:



R_6 is selected from the group consisting of =O and =S;

R_7 is C_{2-7} alkylene;

R_8 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R_9 is selected from the group consisting of hydrogen and alkyl;

R_{10} is C_{3-8} alkylene;

A is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, and -N(R₄)-;

Q is selected from the group consisting of a bond, -C(R₆)-, -C(R₆)-C(R₆)-, -S(O)₂-, -C(R₆)-N(R₈)-W-, -S(O)₂-N(R₈)-, -C(R₆)-O-, and -C(R₆)-N(OR₉)-;

V is selected from the group consisting of -C(R₆)-, -O-C(R₆)-, -N(R₈)-C(R₆)-, and

-S(O)₂-;

W is selected from the group consisting of a bond, -C(O)-, and -S(O)₂-;

a and b are independently integers from 1 to 6 with the proviso that a + b is ≤ 7;

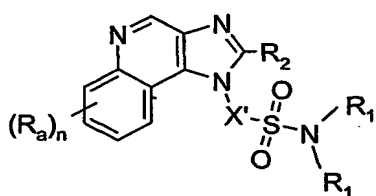
R_a is selected from the group consisting of fluoro, alkyl, haloalkyl, alkoxy, and

-N(R₉)₂; and

n is 0 to 4;

or a pharmaceutically acceptable salt thereof.

30. A compound of the formula (XIII):



(XIII)

wherein:

X' is selected from the group consisting of -CH(R₉)-, -CH(R₉)-alkylene, and -CH(R₉)-alkenylene-; wherein the alkylene and alkenylene are optionally interrupted with one or more -O- groups;

R₁ and R₁' are independently selected from the group consisting of:

hydrogen,

alkyl,

alkenyl,

aryl,

arylalkylenyl,

heteroaryl,

heteroarylalkylenyl,

heterocyclyl,

heterocyclylalkylenyl, and

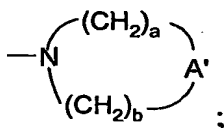
alkyl, alkenyl, aryl, arylalkylenyl, heteroaryl, heteroarylalkylenyl,

heterocyclyl, or heterocyclylalkylenyl, substituted by one or more substituents selected from the group consisting of:

hydroxy,

alkyl,
haloalkyl,
hydroxyalkyl,
alkoxy,
haloalkoxy,
halogen,
cyano,
nitro,
arylsulfonyl,
alkylsulfonyl, and
-N(R₉)₂,

or R_1 and R_1' can join together to form a ring of the formula:



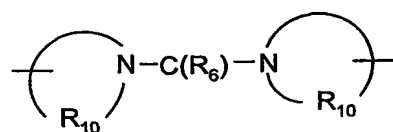
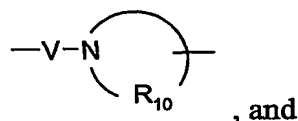
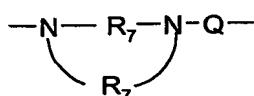
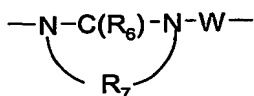
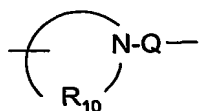
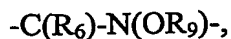
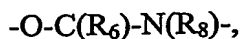
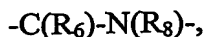
R₂ is selected from the group consisting of:

-R₄,
-X-R₄,
-X-Y-R₄, and
-X-R₅;

X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene, wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted or terminated with arylene, heteroarylene, or heterocyclylene, and optionally interrupted by one or more -O- groups;

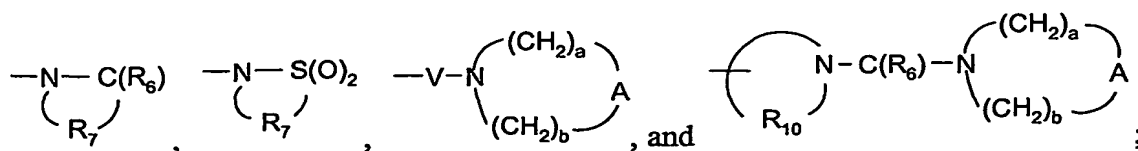
Y is selected from the group consisting of:

- O-,
- S(O)₀₋₂-,
- S(O)₂-N(R₈)-,
- C(R₆)-,
- C(R₆)-O-,
- O-C(R₆)-,
- O-C(O)-O-,



R_4 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl, wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkylenyloxy, heteroaryl, heteroaryloxy, heteroarylalkylenyloxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkylenyloxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

R_5 is selected from the group consisting of:



R_6 is selected from the group consisting of =O and =S;

R_7 is C_{2-7} alkylene;

R_8 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

5 R_9 is selected from the group consisting of hydrogen and alkyl;

R_{10} is C_{3-8} alkylene;

A is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, and -N(R_4)-;

10 A' is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, -N(R_4)-, and -N(Q- R_4)-;

Q is selected from the group consisting of a bond, -C(R_6)-, -C(R_6)-C(R_6)-, -S(O)₂-, -C(R_6)-N(R_8)-W-, -S(O)₂-N(R_8)-, -C(R_6)-O-, and -C(R_6)-N(OR₉)-;

V is selected from the group consisting of -C(R_6)-, -O-C(R_6)-, -N(R_8)-C(R_6)-, and -S(O)₂-;

15 W is selected from the group consisting of a bond, -C(O)-, and -S(O)₂-;

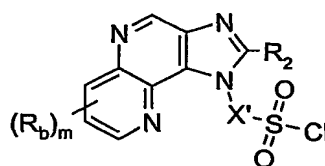
a and b are independently integers from 1 to 6 with the proviso that $a + b \leq 7$;

R_a is selected from the group consisting of fluoro, alkyl, haloalkyl, alkoxy, and -N(R_9)₂; and

n is 0 to 4;

20 or a pharmaceutically acceptable salt thereof.

31. A compound of the formula (XIV):



(XIV)

25 wherein:

X' is selected from the group consisting of -CH(R_9)-, -CH(R_9)-alkylene, and -CH(R_9)-alkenylenyl-; wherein the alkylene and alkenylenyl are optionally interrupted with one or more -O- groups;

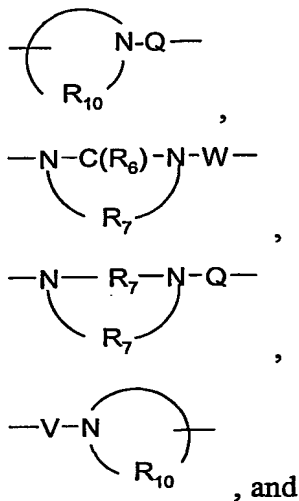
R_2 is selected from the group consisting of:

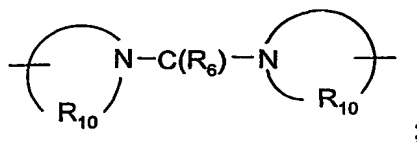
-R₄,
 -X-R₄,
 -X-Y-R₄, and
 -X-R₅;

5 X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene, wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted or terminated with arylene, heteroarylene, or heterocyclylene, and optionally interrupted by one or more -O- groups;

Y is selected from the group consisting of:

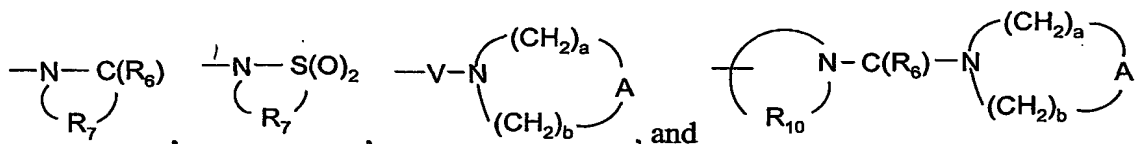
10 -O-,
 -S(O)₀₋₂-,
 -S(O)₂-N(R₈)-,
 -C(R₆)-,
 -C(R₆)-O-,
 15 -O-C(R₆)-,
 -O-C(O)-O-,
 -N(R₈)-Q-,
 -C(R₆)-N(R₈)-,
 -O-C(R₆)-N(R₈)-,
 20 -C(R₆)-N(OR₉)-,





R₄ is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl, wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkylenyloxy, heteroaryl, heteroaryloxy, heteroarylalkylenyloxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkylenyloxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

R₅ is selected from the group consisting of:



R₆ is selected from the group consisting of =O and =S;

R₇ is C₂₋₇ alkylene;

R₈ is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R₉ is selected from the group consisting of hydrogen and alkyl;

R₁₀ is C₃₋₈ alkylene;

A is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, and -N(R₄)-;

Q is selected from the group consisting of a bond, -C(R₆)-, -C(R₆)-C(R₆)-, -S(O)₂-, -C(R₆)-N(R₈)-W-, -S(O)₂-N(R₈)-, -C(R₆)-O-, and -C(R₆)-N(OR₉)-;

V is selected from the group consisting of -C(R₆)-, -O-C(R₆)-, -N(R₈)-C(R₆)-, and -S(O)₂-;

W is selected from the group consisting of a bond, -C(O)-, and -S(O)₂-;

a and b are independently integers from 1 to 6 with the proviso that a + b is ≤ 7;

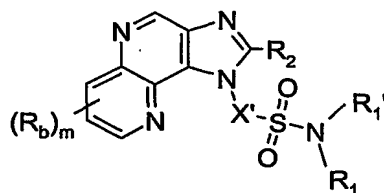
R_b is selected from the group consisting of halogen, hydroxy, alkyl, alkenyl, haloalkyl, alkoxy, and $-N(R_9)_2$; and

m is 0 to 3;

or a pharmaceutically acceptable salt thereof.

5

32. A compound of the formula (XV):



(XV)

wherein:

10 X' is selected from the group consisting of $-CH(R_9)-$, $-CH(R_9)-alkylene$, and $-CH(R_9)-alkenylene-$; wherein the alkylene and alkenylene are optionally interrupted with one or more $-O-$ groups;

R_1 and R_1' are independently selected from the group consisting of:

hydrogen,

15 alkyl,

alkenyl,

aryl,

arylalkylenyl,

heteroaryl,

20 heteroarylalkylenyl,

heterocyclyl,

heterocyclylalkylenyl, and

alkyl, alkenyl, aryl, arylalkylenyl, heteroaryl, heteroarylalkylenyl,

heterocyclyl, or heterocyclylalkylenyl, substituted by one or more substituents

25 selected from the group consisting of:

hydroxy,

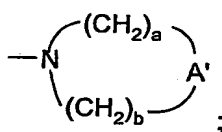
alkyl,

haloalkyl,

hydroxyalkyl,

alkoxy,
haloalkoxy,
halogen,
cyano,
nitro,
arylsulfonyl,
alkylsulfonyl, and
-N(R₉)₂,

or R_1 and R_1' can join together to form a ring of the formula:



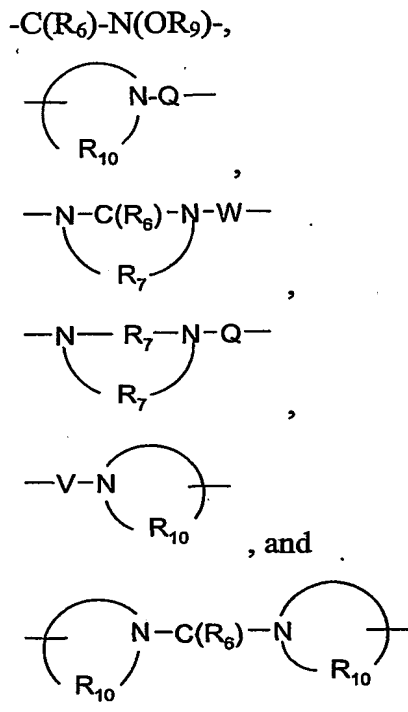
R₂ is selected from the group consisting of:

-R₄,
-X-R₄,
-X-Y-R₄, and
-X-R₅;

X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene, wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted or terminated with arylene, heteroarylene, or heterocyclylene, and optionally interrupted by one or more -O- groups;

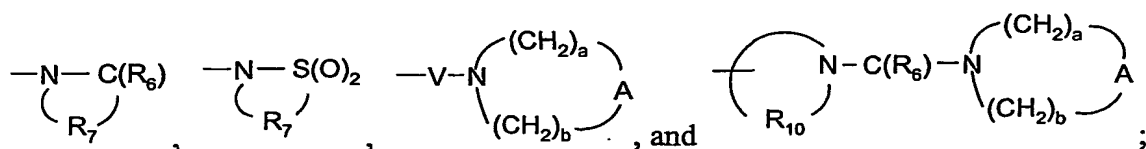
Y is selected from the group consisting of:

- O-,
- S(O)₀₋₂-,
- S(O)₂-N(R₈)-,
- C(R₆)-,
- C(R₆)-O-,
- O-C(R₆)-,
- O-C(O)-O-,
- N(R₈)-Q-,
- C(R₆)-N(R₈)-,
- O-C(R₆)-N(R₈)-,



R_4 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl, wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkylenyloxy, heteroaryl, heteroaryloxy, heteroarylalkylenyloxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkylenyloxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

R_5 is selected from the group consisting of:



R_6 is selected from the group consisting of =O and =S;

R_7 is C_{2-7} alkylene;

R_8 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R_9 is selected from the group consisting of hydrogen and alkyl;

R_{10} is C_{3-8} alkylene;

5 A is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, and -N(R₄)-;

A' is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, -N(R₄)-, and -N(Q-R₄)-;

10 Q is selected from the group consisting of a bond, -C(R₆)-, -C(R₆)-C(R₆)-, -S(O)₂-, -C(R₆)-N(R₈)-W-, -S(O)₂-N(R₈)-, -C(R₆)-O-, and -C(R₆)-N(OR₉)-;

V is selected from the group consisting of -C(R₆)-, -O-C(R₆)-, -N(R₈)-C(R₆)-, and -S(O)₂-;

W is selected from the group consisting of a bond, -C(O)-, and -S(O)₂-;

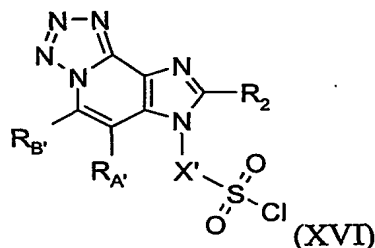
a and b are independently integers from 1 to 6 with the proviso that $a + b \leq 7$;

15 R_b is selected from the group consisting of halogen, hydroxy, alkyl, alkenyl, haloalkyl, alkoxy, and -N(R₉)₂; and

m is 0 to 3;

or a pharmaceutically acceptable salt thereof.

20 33. A compound of the formula (XVI):



wherein:

25 X' is selected from the group consisting of -CH(R₉)-, -CH(R₉)-alkylene, and -CH(R₉)-alkenylen-; wherein the alkylene and alkenylene are optionally interrupted with one or more -O- groups;

R_2 is selected from the group consisting of:

-R₄,

-X-R₄,

-X-Y-R₄, and

-X- R₅;

X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene, wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted or terminated with arylene, heteroarylene, or heterocyclylene, and optionally interrupted by one or more -O- groups;

Y is selected from the group consisting of:

-O-

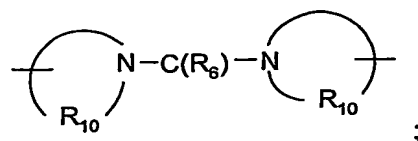
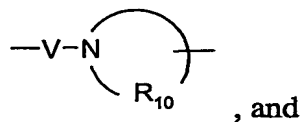
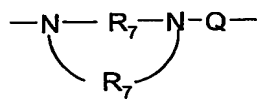
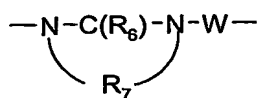
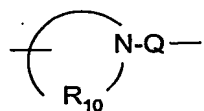
-S(O)₀₋₂-;

$$-\text{S}(\text{O})_2-\text{N}(\text{R}_8)-,$$

-C(R₆)-,

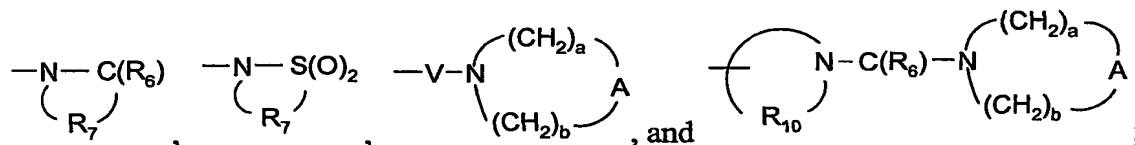
$$-\text{C}(\text{R}_6)-\text{O}-,$$
$$-\text{O}-\text{C}(\text{R}_6)-,$$
$$-\text{O}-\text{C}(\text{O})-\text{O}-,$$

-N(R₈)-Q-,

$$-\text{C}(\text{R}_6)-\text{N}(\text{R}_8)-,$$
$$-\text{O}-\text{C}(\text{R}_6)-\text{N}(\text{R}_8)-,$$
$$-\text{C}(\text{R}_6)-\text{N}(\text{OR}_9)-,$$


R_4 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl, wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkylenyloxy, heteroaryl, heteroaryloxy, heteroarylalkylenyloxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkylenyloxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

R_5 is selected from the group consisting of:



R_6 is selected from the group consisting of =O and =S;

R_7 is C_{2-7} alkylene;

R_8 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R_9 is selected from the group consisting of hydrogen and alkyl;

R_{10} is C_{3-8} alkylene;

A is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, and -N(R₄)-;

Q is selected from the group consisting of a bond, -C(R₆)-, -C(R₆)-C(R₆)-, -S(O)₂-, -C(R₆)-N(R₈)-W-, -S(O)₂-N(R₈)-, -C(R₆)-O-, and -C(R₆)-N(OR₉)-;

V is selected from the group consisting of -C(R₆)-, -O-C(R₆)-, -N(R₈)-C(R₆)-, and -S(O)₂-;

W is selected from the group consisting of a bond, -C(O)-, and -S(O)₂-;

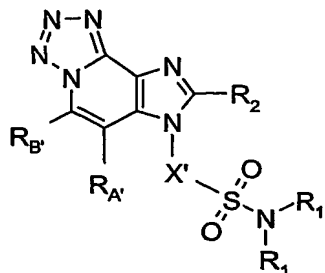
a and b are independently integers from 1 to 6 with the proviso that $a + b \leq 7$;

and

R_A and R_B are independently selected from the group consisting of hydrogen, halogen, alkyl, alkenyl, alkoxy, alkylthio, and -N(R₉)₂;

or a pharmaceutically acceptable salt thereof.

34. A compound of the formula (XVII):



(XVII)

wherein:

X' is selected from the group consisting of -CH(R₉)-, -CH(R₉)-alkylene, and -CH(R₉)-alkenylene-; wherein the alkylene and alkenylene are optionally interrupted with one or more -O- groups;

R₁ and R₁' are independently selected from the group consisting of:

hydrogen,

alkyl,

alkenyl,

aryl,

arylalkylenyl,

heteroaryl,

heteroarylalkylenyl,

heterocyclyl,

heterocyclylalkylenyl, and

alkyl, alkenyl, aryl, arylalkylenyl, heteroaryl, heteroarylalkylenyl,

heterocyclyl, or heterocyclylalkylenyl, substituted by one or more substituents selected from the group consisting of:

hydroxy,

alkyl,

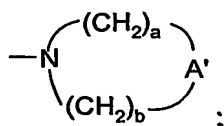
haloalkyl,

hydroxyalkyl,

alkoxy,

haloalkoxy,
halogen,
cyano,
nitro,
arylsulfonyl,
alkylsulfonyl, and
-N(R₉)₂,

or R_1 and R_1' can join together to form a ring of the formula:



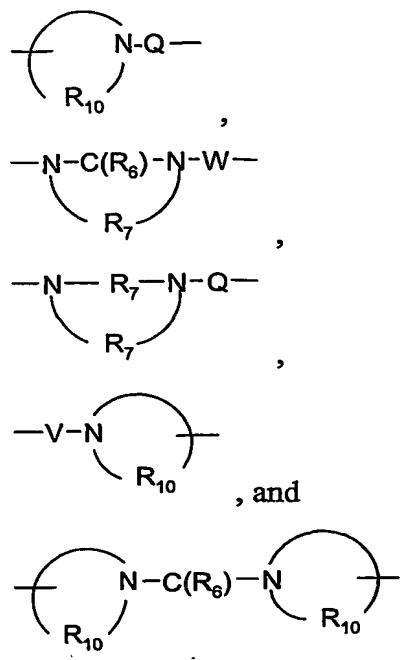
R₂ is selected from the group consisting of:

-R₄,
-X-R₄,
-X-Y-R₄, and
-X-R₅;

X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene, wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted or terminated with arylene, heteroarylene, or heterocyclylene, and optionally interrupted by one or more -O- groups;

Y is selected from the group consisting of:

- O-,
- S(O)₀₋₂-,
- S(O)₂-N(R₈)-,
- C(R₆)-,
- C(R₆)-O-,
- O-C(R₆)-,
- O-C(O)-O-,
- N(R₈)-Q-,
- C(R₆)-N(R₈)-,
- O-C(R₆)-N(R₈)-,
- C(R₆)-N(OR₉)-,



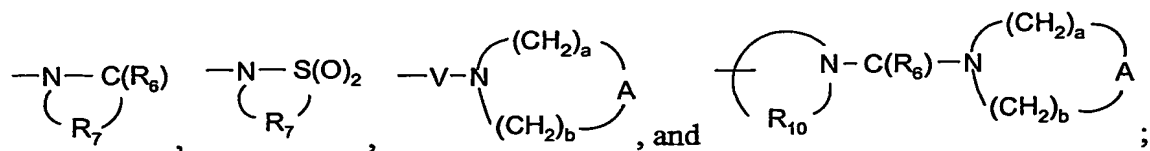
5

R_4 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl, wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkylenyloxy, heteroaryl, heteroaryloxy, heteroarylalkylenyloxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkylenyloxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

10

15

R_5 is selected from the group consisting of:



R_6 is selected from the group consisting of $=\text{O}$ and $=\text{S}$;

20

R_7 is C_{2-7} alkylene;

R_8 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R₉ is selected from the group consisting of hydrogen and alkyl;

R₁₀ is C₃₋₈ alkylene;

A is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, and -N(R₄)-;

5 A' is selected from the group consisting of -O-, -C(O)-, -CH₂-, -S(O)₀₋₂-, -N(R₄)-, and

-N(Q-R₄)-;

Q is selected from the group consisting of a bond, -C(R₆)-, -C(R₆)-C(R₆)-, -S(O)₂-, -C(R₆)-N(R₈)-W-, -S(O)₂-N(R₈)-, -C(R₆)-O-, and -C(R₆)-N(OR₉)-;

10 V is selected from the group consisting of -C(R₆)-, -O-C(R₆)-, -N(R₈)-C(R₆)-, and -S(O)₂-;

W is selected from the group consisting of a bond, -C(O)-, and -S(O)₂-;

a and b are independently integers from 1 to 6 with the proviso that a + b is ≤ 7;

15 R_A and R_B are independently selected from the group consisting of hydrogen, halogen, alkyl, alkenyl, alkoxy, alkylthio, and -N(R₉)₂; or a pharmaceutically acceptable salt thereof.